

## Engineering Specification

Job Name \_\_\_\_\_

Contractor \_\_\_\_\_

Job Location \_\_\_\_\_

Approval \_\_\_\_\_

Engineer \_\_\_\_\_

Contractor's P.O. No. \_\_\_\_\_

Approval \_\_\_\_\_

Representative \_\_\_\_\_

# LEAD FREE\*

## Series LF223, LF223S

### High Capacity Water Pressure Reducing Valves\*\*

Sizes: 1/2" – 2"

Series LF223 and LF223S High Capacity Water Pressure Reducing Valves are designed to reduce incoming water pressure to a sensible level to protect plumbing system components and reduce water consumption. The LF223/LF223S features Lead Free\* construction to comply with Lead Free\* installation requirements. This series is suitable for water supply pressures up to 300psi (20.7 bar) and may be adjusted from 25 – 75psi (172 – 517 kPa). The standard setting is 50psi (345 kPa). Series LF223 features an enlarged diaphragm, spring cage and seat orifice for high capacity performance. Series LF223S has the same options as the LF223, except it is furnished with a strainer. All parts are quickly and easily serviceable without removing the valve from the line. The optional bypass feature permits the flow of water back through the valve into the main when pressures, due to thermal expansion on the outlet side of the valve, exceed the pressure in the main supply.

### Features

- Enlarged diaphragm, spring cage and seat orifice for super capacity performance
- Lead Free\* cast copper silicon alloy body construction
- Serviceable in line
- Series LF223S furnished with separate strainer
- Optional bypass feature controls thermal expansion pressure\*\*\*
- Sealed spring cage on all models for accessible outdoor or pit installations.

### Models

**LF223** NPT threaded female inlet x NPT threaded female outlet

**LF223-S** NPT threaded female inlet with strainer x NPT threaded female outlet

For 2 1/2" – 3" bronze threaded valves, refer to literature ES-LFN223B.

For 3" flanged connections, refer to literature ES-LFN223F.

\*The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.

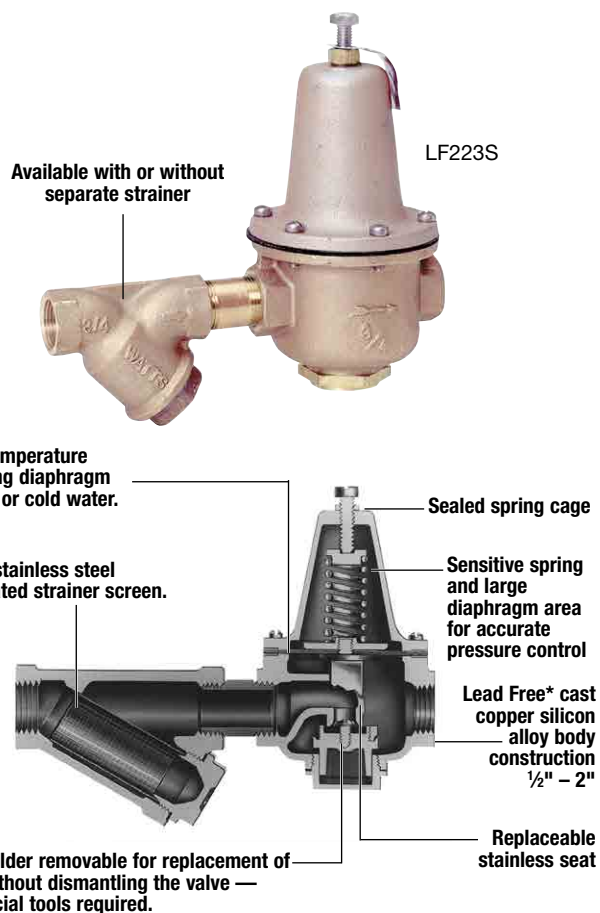
\*\*A water saving test program concluded that reducing the supply pressure from 80-50psi (551-345 kPa) resulted in a water savings of 30%.

\*\*\*The bypass feature will not prevent the pressure relief valve from opening on the hot water supply system with pressure above 150psi (10.3 bar).

### NOTICE

The information contained herein is not intended to replace the full product installation and safety information available or the experience of a trained product installer. You are required to thoroughly read all installation instructions and product safety information before beginning the installation of this product.

Watts product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact Watts Technical Service. Watts reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on Watts products previously or subsequently sold.



### Specifications

A Lead Free Water Pressure Reducing Valve shall be installed on the water service pipe near its entrance to the building where supply main pressure exceeds 60psi (413 kPa) to reduce it to 50psi (345 kPa) or lower. The water pressure reducing valve shall be constructed using Lead Free\* materials. Lead Free\* regulators shall comply with state codes and standards, where applicable, requiring reduced lead content. Sill cocks and outside wall hydrants may be left on full main pressure at the option of the owner. Provision shall be made to permit the bypass flow of water back through the valve into the main when pressures, due to thermal expansion on the outlet side of the valve, exceed the pressure in the main supply. Pressure reducing valves with built-in bypass check valves and strainer will be acceptable. Approved valves shall comply with ASSE 1003. Valve shall be a Watts Series LF223 or LF223S (with strainer).

### NOTICE

Inquire with governing authorities for local installation requirements.

## Materials

Body:	1/2" – 2" Lead Free* cast copper silicon alloy
Spring cage:	Iron
Bottom plug:	Lead Free* cast copper silicon alloy
Bottom plug gasket:	Buna-N
Seat:	Stainless steel
Seat gasket:	Buna-N
Adjusting screw:	Steel
Locking nut:	Brass
Spring button:	Cast Iron
Spring:	Zinc-plated wire
O-Ring:	Buna-N
Diaphragm plate:	Cast Iron
Diaphragm:	Reinforced Buna-N
Disc holder:	Lead free copper silicon alloy
Nameplate:	Aluminum

## Pressure – Temperature

Temperature Range: 33°F – 180°F (0.5°C – 82°C)  
 Maximum Working Pressure: 300psi (20.7 bar)  
 Adjustable Reduced Pressure Range: 25-75psi (172 – 517 kPa)  
 Standard Reduced Pressure Setting: 50psi (345 kPa)

## Standards



1/2" – 2" meets requirements of ASSE Standard 1003; (ANSI A112.26); CSA Standard B356; Southern Standard Plumbing Code, Military Standard MIL-V-18146B. Listed by IAPMO and NSF 61 Commercial Hot.

## Options

B	Built in bypass feature
LP	Low pressure range 10-35psi (69 – 241 kPa)
HP	High pressure range* reduced range shown below:

REDUCED PRESSURE RANGE - SUFFIX HP			
SIZE	RANGE		
in.	psi	bar	
1/2	50-145	3.4-10.0	
3/4	50-145	3.4-10.0	
1	50-145	3.4-10.0	
1 1/4	50-125	3.4-8.6	
1 1/2	50-125	3.4-8.6	
2	50-125	3.4-8.6	

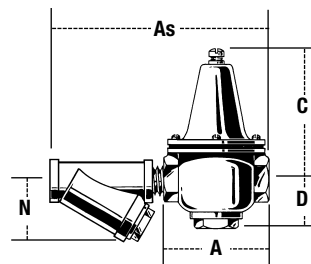
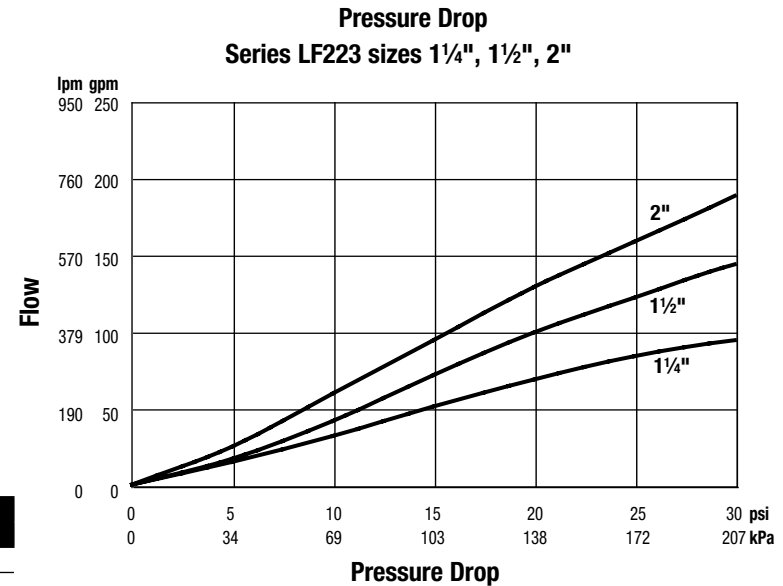
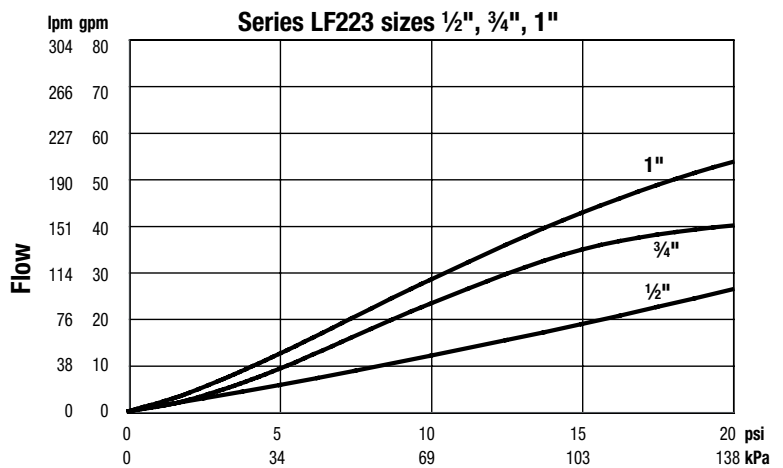
\*LF223-HP models are not ASSE listed

## Dimensions – Weights

SIZE	DIMENSIONS						WEIGHT							
	A (LF223)		As (LF223S)		C		D		N (LF223S)		LF223		LF223S	
in.	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	lbs.	kgs	lbs.	kgs
1/2	4 1/4	108	9	229	6 1/4	159	2	50	2 1/2	64	4.5	2.0	6	2.7
3/4	4 1/4	108	9	229	6 1/4	159	2	50	2 1/2	64	5	2.3	6.5	2.9
1	4 3/4	121	10 15/16	262	6 1/2	165	2 1/8	54	2 15/16	75	7	3.2	9.5	4.3
1 1/4	5	127	11 15/16	287	6 3/4	172	2 3/4	70	3	76	9	4.1	12	5.4
1 1/2	6 3/4	171	14 3/4	375	9 7/8	251	2 3/4	70	3 7/16	87	19.5	8.8	23.5	10.7
2	8	203	16 3/4	425	10 3/4	273	3 3/8	86	4	102	30	13.6	37.5	17.0



## Capacity



USA: T: (978) 689-6066 • Watts.com

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Latin America: T: (62) 55-4122-0138 • Watts.com